Project Baseline Summary Report

Data Source: **EM CDB** Report Number: **GEN-01b**

Operations/Field Office: **Savannah River** Print Date: **3/9/2000**

Site Summary Level: **Savannah River Site** HQ ID: **0492**

Project **SR-NM06 / Nuclear Material Storage Operations**

General Project Information

Project Description Narratives

Purpose, Scope, and Technical Approach:

This project provides for the operation of the Actinide Packaging and Storage Facility (APSF) constructed under project SR-NM03. APSF will provide safe, secure interim storage for sealed storage containers of stabilized special nuclear material (SNM) or other nuclear material (ONM) from SRS and other DOE sites. Shipping containers will be received and stored at a rate of up to 3000 per year. Some of the materials received will need to be converted to a more stable form prior to being placed in storage. These materials will be stabilized (drying and removing volatile materials) at a rate of about 2400 shipping packages per year. The following functions will be provided on a as need basis: safe materials handling and storage; unpacking and packaging of shipping packages; characterizing and repackaging to remove undesirable materials; converting materials to more stable forms for improved storage; all required monitoring, inventory, and security functions; third party (IAEA) inspection capabilities. Also funded under this project are various Capital Equipment (CE) projects necessary to maintain APSF infrastructure.

The preparations for checkout, startup and operation of the new APSF will begin in FY2004 with obtaining and training of the operating staff.

Project Status in FY 2006:

Assuming reestablishment of funding in FY 2001 for SR-NM03 SR Nuclear Material Storage Project, the new APSF will be ready for operation in FY 2006. This project will therefore begin in FY 2004. Following the successful checkout and startup, operation of APSF will begin in FY 2006 with the introduction of the first nuclear material relocated from F-Area vaults to APSF.

Post-2006 Project Scope:

FB-Line vaults and 235-F vault will be de-inventoried and the material relocated to APSF by FY 2008. APSF will continue routine operation.

Project End State

APSF will provide a modern vault with sufficient capacity to contain all Pu-bearing materials and other solid nuclear materials in the SRS inventory that have been included in the excess materials disposition program. The vault will not be used for the storage of waste or liquids. It has been assumed that APSF will continue to operate to the end of the MD mission in 2020. If the nuclear material is removed from the facility for permanent disposal elsewhere, APSF will undergo deactivation and eventually D&D.

Cost Baseline Comments:

This project provides funding for operation of the new APSF vault after construction is completed. This operation includes the S&M costs associated with the stored material and continuing efforts to package and store received material. Also funded are efforts to implement international safeguards (IAEA). Due to the uncertainty of project funding and the possible integration of APSF with other proposed plutonium demobilization facilities, the operating costs stated are long range planning estimate quality.

The full cost of PBS work scope may change based on the authorized funding and priorities in any given year due to changes in site overhead assumptions. For planning and budgeting purposes, work scope costs were estimated using site overhead rates sized for clearance at a funding target of

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$1222.5 million. For FY 2001 (the budget year), the site overhead is applied and cleared at the funding target, while the work scope below the funding target (planning level) is incremental direct cost. For FY 2002 and beyond, the site overhead is applied and cleared over the total planning level of scope.

Safety & Health Hazards:

The primary hazards associated with the operation of APSF are radiological control and material handling. The criteria for determining the radiological hazard categories are provided in DOE-STD-1027-92 , and the criteria for determining the chemical hazard categorization are provided in WSRC-MS-92-206. Radiological and chemical hazards are evaluated in accordance with WSRC-RP-95-1001, "Safety Documentation Integrated Work Process Guidelines and Methods (U)." This methodology is consistent with the hazards analysis guidelines provided in DOE-STD-3009-94 and DOE-STD-3011-94. The Authorization Basis documents for each facility detail the controls in place to address radiological and chemical hazards associated with that facility.

Safety & Health Work Performance:

The SRS Integrated Management System details required checkpoints and activities for Conduct of Operations. The conditions and requirements are clearly established and agreed upon prior to the starting of any project and those requirements are contractually binding upon WSRC. The key elements of the WSRC Integrated Safety Management System are to define the scope of work, identify and analyze hazards associated with the work, develop and implement hazard controls, perform work within controls, and provide feedback on adequacy of controls and continue to improve safety management. The WSRC Integrated Procedures Management System is the primary mechanism for implementing the objective, principles and functions of the Safety Management System. This system establishes Company-Level, Division-level, and Program-specific procedures consistent with organizational roles, and ensures a consistent, discipline site-wide approach to safety while performing work.

PBS Comments:

SRS has determined that a new Actinide Packaging and Storage Facility is the safest (to the worker and environment), and the most economical option compared to the major modification and refurbishing of existing SRS facilities and to a "no action" option.

The facility will allow IAEA monitoring and inspection of stored Pu-239 bearing materials that are in excess to national security requirements.

Baseline Validation Narrative:

NA - Project start date beyond 2005.

General PBS Information

Project Validated?	**Date Validated:**
Has Headquarters reviewed and approved project?	No
Date Project was Added:	12/1/1997
Baseline Submission Date:	7/3/1999

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General PBS Information

FEDPLAN Project? Yes

Drivers:

CERCLA	RCRA	DNFSB	AEA	UMTRCA	State	DOE Orders	Other
N	N	Y	N	N	N	Y	N

Project Identification Information

DOE Project Manager: Charles E. Anderson

DOE Project Manager Phone Number: 803-952-2790

DOE Project Manager Fax Number: 803-942-2495

DOE Project Manager e-mail address: charles.anderson@srs.gov

Is this a High Visibility Project (Y/N):

Planning Section

Baseline Costs (in thousands of dollars)

	1997-2006 Total	2007-2070 Total	1997-2070 Total	1997	Actual 1997	1998	Actual 1998	1999	2000	2001	2002	2003	2004	2005	2006
PBS Baseline (current year dollars)	41,175	584,000	625,175						0	0	0	0	12,375	16,800	12,000
PBS Baseline (constant 1999 dollars)	34,500	400,325	434,825						0	0	0	0	10,644	14,070	9,786
PBS EM Baseline (current year dollars)	41,175	584,000	625,175						0	0	0	0	12,375	16,800	12,000
PBS EM Baseline (constant 1999 dollars)	34,500	400,325	434,825						0	0	0	0	10,644	14,070	9,786

	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070

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	2007	2008	2009	2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
PBS Baseline (current year dollars)	51,500	53,000	54,400	55,800	209,300	160,000	0	0	0	0	0	0	0	0	0	0
PBS Baseline (constant 1999 dollars)	40,895	40,979	40,956	40,905	141,746	94,844	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (current year dollars)	51,500	53,000	54,400	55,800	209,300	160,000	0	0	0	0	0	0	0	0	0	0
PBS EM Baseline (constant 1999 dollars)	40,895	40,979	40,956	40,905	141,746	94,844	0	0	0	0	0	0	0	0	0	0

Baseline Escalation Rates

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
			3.60%	3.60%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

2010	2011-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050	2051-2055	2056-2060	2061-2065	2066-2070
2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%	2.70%

Project Reconciliation

Project Completion Date Changes:

Previously Projected End Date of Project: 10/1/2028

Current Projected End Date of Project: 9/30/2020

Explanation of Project Completion Date Difference (if applicable):

In the last PtC is was assumed that the materials stored in the Actinide Packaging and Storage Facility would be turned over to another program in 2028 and the facility closed. New guidance is to show LCC ending in 2020. Project start was delayed due to the temporary 2 year suspension of the construction project (SR-NM03) for this facility.

Project Cost Estimates (in thousands of dollars)

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Project **SR-NM06 / Nuclear Material Storage Operations**

Project Reconciliation

Previously Estimated Lifecycle Cost (1997 - 2070, 1998 Dollars):	560,236	**Actual 1997 Cost:**	**Actual 1998 Cost:**	
Previously Estimated Lifecycle Cost of Project (1999 - 2070, 1998 Dollars):	560,236	**Inflation Adjustment (2.7% to convert 1998 to 1999 dollars):**		15,126
Previously Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	575,362			

Project Cost Changes

	Cost Adjustments	Reconciliation Narratives
Cost Change Due to Scope Deletions (-):	140,535	Project close 8 years sooner in 2020
Cost Reductions Due to Efficiencies (-):		
Cost Associated with New Scope (+):		
Cost Growth Associated with Scope Previously Reported (+):		
Cost Reductions Due to Science & Technology Efficiencies (-):		
Subtotal:	434,827	
Additional Amount to Reconcile (+):	-2	
Current Estimated Lifecycle Cost (1999 - 2070, 1999 Dollars):	**434,825**	

Milestones

Milestone/Activity	Field Milestone Code	Original Date	Baseline Date	Legal Date	Forecast Date	Actual Date	EA	DNFSB	Mgmt. Commit.	Key Decision	Intersite
Startup Actinide Packaging and Storage Facility (2, 2, 1)	SR-NM06-002		12/31/2005					Y			
SR-NM06 Project Mission Complete	SR-NM06-099		9/30/2020								
Nuclear Material Storage Project Start (SR-NM06)	SR-NM06-001		1/1/2004								
Stabilize and Package RFETS Residues & Scrub Alloy	SR-NM06-003		5/31/2006					Y			
Repackage pre-existing Pu metal and oxide.	SR-NM06-004		6/30/2006					Y			
Stabilize and repackage pre-existing residues.	SR-NM06-005		6/30/2007					Y			

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Project **SR-NM06 / Nuclear Material Storage Operations**

Milestones - Part II

Milestone/Activity	Field Milestone Code	Critical Decision	Critial Closure Path	Project Start	Project End	Mission Complete	Tech Risk	Work Scope Risk	Intersite Risk	Cancelled	Milestone Description
Startup Actinide Packaging and Storage Facility (2, 2, 1)	SR-NM06-002		Y				3	2	3		Complete APSF startup preparations and reviews in accordance with site procedures (i.e., 12Q). Does not include DOE permission to commence operations. No SEG milestone. DNFSB IP milestone 202. APSF construction not covered in Target funding for 2001. W
SR-NM06 Project Mission Complete	SR-NM06-099				Y						The scope of the storage project will have been completed (SR-NM06). No SEG milestone.
Nuclear Material Storage Project Start (SR-NM06)	SR-NM06-001			Y							Initiation of the work to safely store nuclear material. Scope includes routine required surveillances and capability to repackage if required. No SEG milestone.
Stabilize and Package RFETS Residues & Scrub Alloy	SR-NM06-003										RFETS Pu residues and scrub alloy received and stored in KAMS will have been stabilized as needed and packaged for long-term interim storage. No SEG milestone. DNFSB IP milestone = 209.
Repackage pre-existing Pu metal and oxide.	SR-NM06-004										Existing Pu metal and oxide will have been package
Stabilize and repackage pre-existing residues.	SR-NM06-005										Existing Pu residues will have been stabilized and packaged for long-term interim storage. No SEG milestone. DNFSB IP milestone = 204.